

عنوان مقاله:

An Intelligent Method to Control Overload in Multimedia Networks

محل انتشار:

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نویسنده:

Mehdi Khazaei - Department of Information Tecnology, Kermanshah University of Technology, Kermanshah, Iran

خلاصه مقاله:

Session initiation protocol (SIP) is the most important application layer protocol for multi-media applications. SIP is considered as a signaling protocol for IP multimedia subsystem (IMS) introduced by 3rd generation partnership project as signaling foundation in next generation networks (NGN). In this way, SIP should be able to respond to the needs of such a largely-used network. One of the major problems in SIP networks is overload. Many methods have been proposed to overcome overload in SIP, among which, multi-agent systems (MAS) are new agent-based and increasingly growing approaches. Since a distributed SIP network is a complex system composed of subsystems interacting with each other, MAS is proposed for overload control in the SIP networks with each scale. In this paper, holonic organization is applied to reduce the MAS complexity for modeling a large SIP network. Therefore, SIP network is divided into geographical areas in which each holon controls an area. The entire network is controlled in hierarchical structure of holons. Hence, hierarchical structure is formed for holons. The overload control is achieved by communication and the knowledge exchange between the holons. Experimental results show that the Holonic-MAS overload control prevents overload in the SIP network while it causes increase whole throughput and reduce delay.

کلمات کلیدی:

Holonic Multi-Agent, Overload Control, SIP Network

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